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May 13, 2022

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Re: The HomeSource Corp. v. Retailer Web Services, LLC, et al., Civil  
Action No. 1:18-cv-11970

Dear Counsel:

I write in response to the parties' latest letters, dated May 3, 2022 and May 10, 2022, regarding the ongoing disputes surrounding the examination of HomeSource's "mirror image." Because of the highly technical nature of some of the questions that are at the heart of these disputes, I will request that Judge Robreno authorize me to appointment a neutral expert, pursuant to Federal Rule of Evidence 706, to help resolve the technical questions outlined below and to ensure that no evidence is destroyed or altered based on any future orders I may issue.

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## **Relevant Procedural History Before the District Court**

On April 8, 2019, the parties had a hearing before then-Magistrate Judge Williams regarding various outstanding discovery disputes. *See* ECF 84. During that hearing, she clarified her instructions from a previous hearing, which she acknowledged were “not clear on what needs to happen.”<sup>1</sup> She instructed that:

Homesource is to create a mirror image of the data that it will search to determine whether RWS IP addresses are the source cause or relative to the alleged hacking that forms the basis of this case.

To be clear, an exact copy of a data source that includes all the active data, unallocated space and slack space. This provides the most fulsome collection method, which enables the anticipated forensic examiner to fully analyze the entire contents of the device in a controlled environment.

*Id.* at 5:5-15. This was followed by a written order that stated HomeSource:

[S]hall immediately (if it has not already done so) create a Mirror Image of the data base it will use to compare RWS’s IP addresses against for the purposes of determining whether any RWS IP address was connected to the alleged “hacking event.” The Mirror Image shall have a hashvalue as it is beyond cavil that “hashing” guarantees the authenticity of the original data set.

ECF 81.

On October 7, 2019, the parties had another discovery conference with Judge Williams. At that conference, in relevant part, the parties discussed an affidavit produced by RWS which stated that “RWS knows of no instance in which it purposely ran a spider or other website crawling program on any ADC member website operated by HomeSource.” Oct. 7, 2019 Tr. at 107:14-18.<sup>2</sup> However, HomeSource contended that the affidavit was rebutted by “logs” that identified spiders from RWS IP addresses on their websites. *Id.* at 107:23-108:5. In response, RWS asserted that they had only been provided with a summary of the actual logs, but had not been given access to

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<sup>1</sup> Because of Judge Williams’ self-assessment as to the usefulness of that hearing, I omit a summary of those proceedings here.

<sup>2</sup> This transcript was sealed, and therefore does not have a docket citation. *See* ECF 127.

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the mirror image of the HomeSource database that produced the logs to verify their contents or how they were created. *Id.* at 108:24-109:10; 110:13-22; 112:18-25. Judge Williams noted that she had “asked [HomeSource] to create a mirror image so that [RWS’s] expert can do the same search [HomeSource’s] expert did.” *Id.* at 113:11-13; *see also id.* at 115:7-11 (“[T]he reason I had you create a mirror image with the hash value is so their expert can search that mirror image to confirm that the data and output from the data being searched, otherwise how do they challenge your expert?”).

At first, Judge Williams repeatedly instructed that RWS’s expert would need to “run the same search that [HomeSource’s] expert ran.” *Id.* at 115:19-20, 116:7-9, 16-17. She also noted that any search “must be provided to HomeSource before it’s run” because she was “not giving the expert willy-nilly access to th[e] database.” *Id.* at 117:22-25. After additional back and forth regarding whether the search protocols previously submitted to HomeSource by RWS were too expansive for the purpose of rebutting HomeSource’s expert, Judge Williams stated the protocol should be submitted to her, explaining that the purpose of the expert was:

[n]ot only to say the search that [HomeSource] ran was wrong, but that a proper search would have done this, and had a proper search been done, these are the results that would have been had. . . And so I’ve got to allow this expert to run the search that – that she believes is the proper search to determine whether or not RWS did whatever it did on your website. Right? But I want to see what this looks like.

*Id.* at 119:16-25.

That conference was followed by an order which stated that:

HomeSource shall make the “mirror image” of the database available to defendant’s expert. The experts shall meet and confer and confirm the search undertaken by plaintiff’s expert and the search protocol to be undertaken by defendant’s expert. Defendant shall provide plaintiff with the search protocol. If there are objections to defendant’s proposed search protocol, the parties shall present the issue to the Court.

ECF 129 at 4. It does not appear that Homesource, at any point during this discussion, raised concerns that a search of the mirror image would invalidate or alter the mirror image’s hash value.

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## **Relevant Procedural History Before the Special Master**

The parties were not able to agree to a search protocol, and that dispute remained open at the time I was appointed as Special Master. In an attempt to resolve these issues, in an order dated August 2, 2021 I instructed RWS to provide a list of questions it sought to answer through a search of the mirror image, and what types of access or permissions its expert would need to execute those searches, and then instructed HomeSource to provide any objections it had to those potential searches. On August 12, 2021 RWS submitted its proposed searches. HomeSource then submitted its objections to those proposed searches on August 23, 2021. At a high level, HomeSource's objections were that the information RWS sought was not contained in the mirror image, that the mirror image was no longer relevant to the litigation, that RWS's proposed examination of the mirror image would alter the hash value, and that the proposed searches are looking for information that is duplicative of information already provided.<sup>3</sup>

In response to RWS's proposed questions and HomeSource's objections, I issued a written letter opinion on April 20, 2022. ECF 311. In that opinion, I held that the contents of the mirror image, as represented by HomeSource, were still relevant to the case and asked that the parties meet and confer one last time to determine if they could come to an agreement regarding an examination procedure. *Id.* at 7. The parties agree that a meet and confer took place on April 26, 2022, but very little else.

In a letter dated May 2, 2022, RWS claimed that at the meet and confer, HomeSource's IT manager "stated that HomeSource **never created** a mirror image of its database or log servers. Instead, he said it merely created an image of the search it performed on its system." RWS ltr. dated May 3, 2022 at 1 (emphasis in original). RWS also contended that HomeSource stated "that there was no hash value for the AWS machine image that corresponded to the definition of that term as used in forensics." *Id.* at 1-2. RWS went on to state that its and HomeSource's expert agreed on a method for transferring the mirror image (using an AWS S3 bucket), but that after the meet and confer, HomeSource's expert stated this method would alter the hash value. *Id.* at 2-3. RWS then requested an order instructing HomeSource to provide the hash value number for the mirror image, a copy of the mirror image, and the mirror image itself. In the alternative, RWS requested a neutral expert to answer specific technical questions regarding the mirror image and hash value.

In a response from HomeSource, dated May 10, 2022, HomeSource "disagree[d] with RWS's characterization of the experts' meet-and-confer call and subsequent e-mail

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<sup>3</sup> The questions and objections are recited in greater detail in my letter opinion dated April 20, 2022. *See* ECF 311 at 4-6.

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correspondence.” HomeSource Ltr. dated May 10, 2022 at 1. HomeSource maintained that any attempt to copy or transfer the mirror image would “alter the hash value and destroy the integrity of the chain of custody. *Id.* at 1. HomeSource asserts that the methodology RWS wants to use would only be suitable for “a server that was part of a physical device,” however HomeSource’s server is stored via Amazon Web Services. Because of this, they assert the proper method to validate the Log Server is “though an examination of the storage records with AWS.” *Id.* at 1. HomeSource further argued that it did not agree “to allow RWS to have unilateral access to the mirror image” and that no court has ordered it to do so, because “the mirror image contains highly sensitive third-party customer data.” *Id.* at 2. Finally, HomeSource stated that its expert’s agreement to use an S3 bucket to transfer files was an agreement to the use of that method if anything were to be transferred, but not an agreement to transfer any files. *Id.* at 2.

## **Need for the Appointment of a Neutral Expert**

At this point I believe it is necessary for a neutral expert to assist in the resolution of these disputes. The contention that any copy, search or other use of the mirror image will alter its hash value is particularly concerning, and is one that subject-matter expertise is required to evaluate.

However, it is not lost on me that if HomeSource’s contention is correct – the mirror image cannot be viewed, copied, or searched without altering the hash value – it directly contradicts what Judge Williams’ stated purpose of the mirror image was. Although Judge Williams did state in the October 7, 2019 hearing that RWS would not be given “willy-nilly access” to HomeSource’s database, she later made very clear that the mirror image would be searched by RWS’s expert. She stated that any search protocol that HomeSource objected to would need to be submitted to her first but that the expert’s job was “[n]ot only to say the search that [HomeSource] ran was wrong, but that a proper search would have done this, and had a proper search been done, these are the results that would have been had.” Oct. 7, 2019 Tr. at 119:18-21. Therefore, she instructed that she was required “to allow this expert to run the search that – that she believes is the proper search to determine whether or not RWS did whatever it did on your website.” *Id.* at 119:22-24; *see also id.* at 120:17-20 (“I still want to see the search protocol because I’m going to hold her to it. And -- and HomeSource and its expert have the opportunity to review what the search is going to do or be.”). Judge Williams order also made it clear that a search of the mirror image *would happen*, it was just a question of how that search was formulated. *See* ECF 129 (“The experts shall meet and *confer and confirm the search undertaken by plaintiff’s expert and the search protocol to be undertaken by defendant’s expert.* Defendant shall provide plaintiff with the search protocol.”).

Despite the clear indications of Judge Williams in 2019 that she anticipated RWS would

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be given access to the mirror image and would be performing some kind of search on the mirror image, my review of the record does not indicate that HomeSource ever brought up the fact that any transfer or examination of the mirror image would invalidate the hash value used to ensure its integrity.<sup>4</sup> Therefore, if the manner in which the mirror image was stored creates a situation where RWS is unable to access relevant information in a manner that preserves the integrity of the data, it may be grounds to exclude the use of such evidence at trial.

Regardless, due to the highly technical nature of the current disputes, I believe a neutral expert, appointed pursuant to Federal Rule of Evidence 706, is required to answer the following questions:

- Did HomeSource create a mirror image with a hash value that conforms to Judge Williams' instructions?
- What, if anything, can be done with the mirror image without altering the hash value?
- What categories or types of information are contained in the mirror image?
- Given the allegations regarding the DoS/DDoS attack and use of spider or webcrawler software, as they apply to RWS, what, if any, information on the mirror image is related to those allegations?
- What, if any, methods exist by which RWS can examine the log server (or verified copy of relevant portions of the log server) that ensures the information has not been altered since the logs were initially created, and preserves the ability of the logs, or copies of the logs, to be admitted at trial?

Although these questions seem most relevant at this juncture, I also anticipate that as these proceedings continue, the expert may also be needed to resolve disputes that the answers to these questions raise. Therefore, for the reasons set forth above, I will ask Judge Robreno to authorize me to appoint a neutral expert to address the issues described above.

I intend to file this letter on the public docket. I recognize I have summarized or quoted

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<sup>4</sup> Although HomeSource did indicate that the mirror image was "stored with Amazon and any changes that are made to it or not would be verified by Amazon," ECF 73 at 67:12-18, that in itself did not make clear that as a result, the hash value would not withstand any copying, searching or review of the mirror image.

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information contained in sealed and AEO documents. Although I have attempted to omit information that gave rise to those designations, any party that believes this letter should be filed in a redacted form should provide me with proposed redactions ten days from the date of this letter.

Very truly yours,

*/s/ Stephen M. Orlofsky*

STEPHEN M. ORLOFSKY  
Special Master